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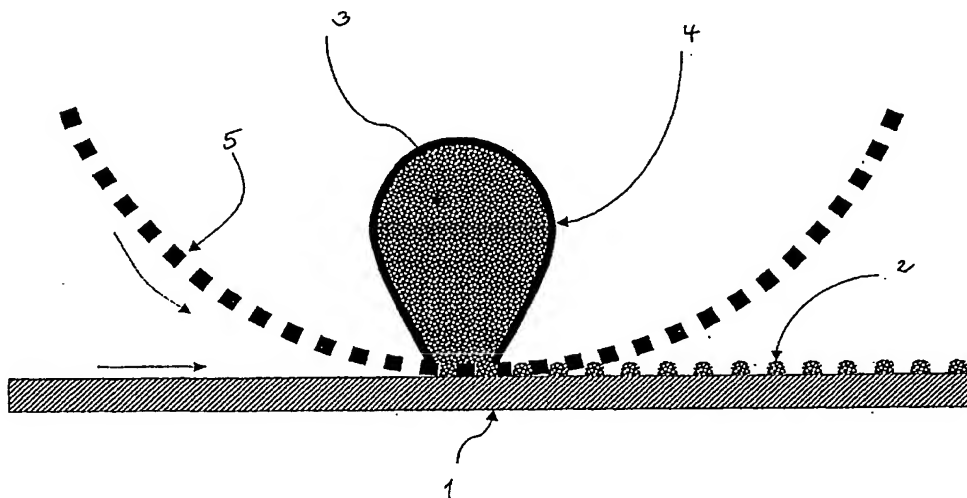
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(54) Title: TEXTILE PRODUCT WITH IMPROVED ABRASION RESISTANCE AND PROCESS FOR THE PRODUCTION THEREOF



(57) Abstract: The invention relates to a textile product in which a three-dimensional pattern is applied on a textile substrate having a certain abrasion resistance, whereby the three-dimensional pattern covers at least 15 % of the area of the textile substrate, so that the abrasion resistance of the textile product lies beyond the abrasion resistance of the textile substrate. As a consequence, the abrasion resistance of a textile substrate can be improved by a process in which a textile substrate web having a certain abrasion resistance is provided and a three-dimensional pattern covering at least 15 % of the area of the textile substrate web is applied thereupon.

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# INTERNATIONAL SEARCH REPORT

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## A. CLASSIFICATION OF SUBJECT MATTER

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Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

PAJ, WPI Data, EPO-Internal

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	PATENT ABSTRACTS OF JAPAN vol. 2002, no. 12, 12 December 2002 (2002-12-12) & JP 2002 227073 A (SEIREN CO LTD), 14 August 2002 (2002-08-14) abstract	1-3, 11, 18-25, 33
X	PATENT ABSTRACTS OF JAPAN vol. 1998, no. 01, 30 January 1998 (1998-01-30) & JP 09 256281 A (TORAY IND INC), 30 September 1997 (1997-09-30) abstract	1-3, 11, 18-21

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X	PATENT ABSTRACTS OF JAPAN vol. 1995, no. 01, 28 February 1995 (1995-02-28) & JP 06 296925 A (KOEI KOGEI KK), 25 October 1994 (1994-10-25) abstract -----	1,22,26
X	US 3 372 978 A (PITTMAN ALIEN G ET AL) 12 March 1968 (1968-03-12) column 1, line 1 - line 16 column 1, line 55 -column 2, line 42; example 1 -----	1,22

# INTERNATIONAL SEARCH REPORT

Information on patent family members

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Patent document cited in search report		Publication date	Patent family member(s)	Publication date
JP 2002227073	A	14-08-2002	NONE	
JP 09256281 3	A		NONE	
JP 06296925 3	A		NONE	
US 3372978	A	12-03-1968	BE 664664 A	16-09-1965
			FR 1455905 A	05-01-1967
			GB 1113604 A	15-05-1968
			NL 6506829 A	29-11-1965
			US 3433575 A	18-03-1969
			US 3440002 A	22-04-1969
			US 3632391 A	04-01-1972
			US 3385653 A	28-05-1968
			US 3383162 A	14-05-1968
			US 3406005 A	15-10-1968